Remarks

Claims 1-11 and 13-36 are pending in the application. All claims stand rejected.

Claims 1-11 and 13-36 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Publication No. 2002/0116705 to Perlman ("Perlman").

Independent claim 1 recites "storing said *decrypted multimedia channels to a second hard drive partition* prior to rendering said decrypted multimedia channels on a display." The Office Action states that "Perlman does teach of storing decrypted multimedia see Par. 0038 & Par. 0032 & Fig. 5 item 500." Office Action, page 2. Paragraphs 0038 and 0032 of Perlman are reproduced below as follows:

> [0032] As indicated in FIG. 5, each of the embodiments described herein may also employ a long term storage buffer 500 for recording programs specified by a user (e.g., similar to the long-term recording functionality of a VCR). In one embodiment, if a user selects a program for recording while the program is already in progress, the program content already stored in one of the demultiplexed multi-stream buffers will be transferred to the long term storage buffer 500 as well as any new program content. Alternatively, or in addition, the program content may simply be reclassified as long term storage content by changing the classification of its directory entry on the storage device rather than moving the content itself.
>
> [0038] Rendering audio/video content from each of the cable/satellite channels is simplified using embodiments of the present invention because the full set of multiplexed streams/channels are transmitted to the mass storage device and are accessible by the decoder modules 170, 171. Such a configuration was not possible in prior systems which only transmit one or two de-multiplexed streams to the mass storage device and decoder modules.

The cited paragraphs have absolutely no teaching or suggestion of decryption. The Applicants respectfully inquire as to where decryption is taught in these paragraphs, and more specifically, where decryption of multimedia channels to a second hard drive partition prior to rendering said decrypted multimedia channels on

a display is taught. The Office Action is silent on the matter, and clarification is requested.

The cited paragraphs do disclose the storage of demultiplexed program content on long-term storage buffer 500. If the Office Action interprets demultiplexing as decrypting, such an interpretation is incorrect. As is well known in the art, demultiplexing and decrypting are very different actions and very different manipulations of data.

Multiplex is defined as:

> To combine multiple signals (analog or digital) for transmission over a single line or media. A common type of multiplexing combines several low-speed signals for transmission over a single high-speed connection. The following are several examples of different multiplexing methods:
> **Frequency Division Multiplexing (FDM):** each signal is assigned a different frequency.
> **Time Division Multiplexing (TDM):** each signal is assigned a fixed time slot in a fixed rotation.
> **Statistical Time Division Multiplexing (STDM):** time slots are assigned to signals dynamically to make better use of bandwidth.
> **Wavelength Division Multiplexing (WDM):** each signal is assigned a particular wavelength; used on optical fiber.

www.webopedia.com. Two or more signals may be multiplexed for simultaneous transmission over a communications circuit. When multiple signals are sent over a single transmission channel, the process that keeps the signals from interfering with one another is called multiplexing. Accordingly, multiplexing improves the economy of a transmission facility to reduce installation and operation costs.

It follows that demultiplexing is defined as:

> To separate two or more channels previously multiplexed. Demultiplexing is the reverse of multiplexing.

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By contrast, encryption is defined as:

> The translation of data into a secret code. Encryption is the most effective way to achieve data security. To read an encrypted file, you must have access to a secret key or password that enables you to decrypt it.

www.webopedia.com. Decryption is defined as:

> The process of decoding data that has been encrypted into a secret format. Decryption requires a secret key or password.

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A secret key or password is not required to demultiplex signals. None of the forms of multiplexing, FDM, TDM, STDM, WDM, can reasonably be construed as encrypting as no key or password is required to demultiplex. As is commonly known in the art, encryption is used for privacy and copyright protection. Multiplexing is used to combine signals for transmission. Encryption and multiplexing cannot be interpreted as equivalents.

Signals may be multiplexed, but not encrypted. Multiplexed and unencrypted signals are not protected. Signals may also be demultiplexed but not decrypted. An example of this is given at: http://www.ofcom.org.uk/static/archive/ra/topics/broadcasting/document/digittv/nera2.htm, at 2.4, wherein a channel is discussed as being demultiplexed but not decrypted. Such a channel would retain its security as it is still encrypted.

Perlman discloses that demultiplexed streams are stored on long-term storage buffer 500. Paragraphs 0032 and 0038. However, the demultiplexed signals are still encrypted and must await decoding by decoders 170, 171. The technique of Perlman necessarily involves delay that is avoided in the present invention.

Perlman does not teach decryption and storage of channels as required in claim 1. The Office Action has not shown how Perlman teaches the storage of decrypted multimedia channels in a second hard drive partition prior to rendering on a display. Perlman specifically discloses that decryption does not occur until the streams reach the decoders 170, 171. Paragraph 0038. The present invention, Perlman, and common knowledge in the art, all teach that demultiplexing and decrypting are very different actions that serve different purposes. Interpreting demultiplexing as decrypting is unreasonable and unsustainable.

An anticipation under section 102 is proper only if the reference shows exactly what is claimed. MPEP § 2131. Because Perlman does not disclose limitations of claim 1, Perlman cannot anticipate claim 1. Furthermore, because claims 11 and 26 include similar limitations, they are likewise not anticipated by Perlman.

The Office Action states that "applicant's arguments regarding the use of RAM are immaterial as Perlman discloses the long-term storage." Office Action, page 2. However, the Office Action then refers to the RAM 445, 446 as being a first hard drive partition in anticipating claim 1, claim 11, and claim 26. Office Action, pages 3, 5, and 8. The Applicants respectfully request clarification as to whether the RAM 445, 446 is still being interpreted as a first hard drive partition. If so, it is well known in the art that a hard drive is a magnetic disk that provides non-volatile capability, whereas RAM is not a magnetic disk and only provides volatile storage. www.webopedia.com. A RAM provides random access and is not partitioned. Hard drives and RAMs are very different storage mediums, and the buffers 445, 446 cannot satisfy the hard drive partition element of claim 1.

Claim 2 further recites that the first hard drive partition is optimized for writing data. Claim 7 further recites that the second hard drive partition is optimized for reading data. In rejecting claims 2 and 7, the Office Action refers to Perlman's teaching of UDMA and SCSI in paragraphs 0028 and 0042. Perlman states that "mass storage device 360 in one embodiment is coupled to the system via an Ultra DMA-66/Ultra ATA-66 or faster interface." Paragraph 0028. Perlman also states that mass storage devices may be connected through a multi-drive high speed communication interface, such as UDMA or SCSI. Thus, Perlman teaches that mass storage devices are connected to interfaces with UDMA or SCSI capability. However, Perlman has no teaching or suggestion whatsoever of the hard drive partition being optimized for reading or writing. Coupling a storage device to a high speed interface does not optimize a partition on the storage device.

Accordingly, Perlman does not meet the limitations of claims 2 and 7. Claims 3-6, 8-10, 13-17, and 27-36 depend from their respective independent claims and likewise represent patentable subject matter for at least the reasons recited above.

Claim 18 recites pre-allocating metadata to consecutive blocks on a mass storage device before writing data. The Office Action states, in reference to claim 17, that Perlman "discloses the pre-allocating for headers and used for identification see Par. 0056 & Par. 0059." Office Action, page 3. The Applicants believe that the Office Action is referring to claim 18 and not 17. The application discloses that metadata blocks for multimedia data files are pre-allocated at file creation time. Page 42, paragraph 0114. It is necessary to find all corresponding metadata blocks in order to delete a file. With the metadata arranged consecutively in a cluster, as shown in

Figure 22, it is easier to locate during file deletion (i.e., without excessive seeking). Id.

Paragraph 0056 of Perlman teaches the use of pointers and playback from a pointer. In reference to Figure 13, Perlman teaches the decryption of a stream identified by a pointer, but that playback does not until the decryption process reaches an I-frame. Perlman also recites that "the system identifies the I-frame 1303 by decrypting its I-frame header." Page 5, paragraph 0056. Thus, Perlman teaches that an I-frame has a decryptable header that is used for identification.

Claim 18 requires pre-allocating metadata to consecutive blocks before writing the data. Perlman has absolutely no teaching of pre-allocating metadata prior to writing data. Perlman does not disclose that a header is allocated before writing a corresponding I-frame. Furthermore, there is absolutely no teaching of metadata being allocated to consecutive blocks. Perlman does not recite that I-frame headers are pre-allocated in consecutive blocks, and there is nothing to suggest that the I-frame headers are grouped consecutively. The mere existence of headers does not inherently suggest that the headers are pre-allocated and consecutively grouped together.

Paragraph 0059 of Perlman discloses decryption of a stream until an I-frame is reached. Upon reaching an I-frame, the I-frame is decrypted and rendered on a display. Perlman also states that "[t]he system may identify each of the I-frames by decrypting their respective I-frame headers." Page 6, paragraph 0059. Similar to paragraph 0056, paragraph 0059 recites that an I-frame has a decryptable header that may be used for identification. However, there is absolutely no teaching or

suggestion whatsoever that the headers are pre-allocated prior to writing data. Perlman does not teach that the headers are consecutively stored together. Accordingly, the limitations of claim 18 are not taught by Perlman.

With respect to claim 18, the Office Action also refers to paragraph 0034 of Perlman. Office Action, page 7. However, the Office Action provides no discussion whatsoever of how paragraph 0034 teaches the limitations of claim 18. The Applicants discussed the patentability of claim 18 against paragraph 0034 in the Amendment filed on July 11, 2005. Paragraph 0034 teaches the configuration of different buffer sizes for different channels. In the given example, a preferred channel receives a larger buffer. There is absolutely no mention of pre-allocating metadata in paragraph 0034. Indeed, Perlman never recites the term "metadata" or discusses its use. Metadata is data about data to describe how, when, and by whom a particular set of data was collected, and how the data is formatted. www.webopedia.com. Configuring buffer size for channels based on user preferences cannot be reasonably interpreted as pre-allocating metadata to consecutive blocks before writing data. Perlman does not disclose what is recited in claim 18 and cannot anticipate claim 18. The Office Action does not respond to how configuring buffering size is to be interpreted as pre-allocating metadata to consecutive blocks. The Applicants respectfully request reconsideration.

Claims 19-21 depend from and include all limitations of claim 18 and likewise represent patentable subject matter.

Claim 22 recites:

> A system for efficiently storing multimedia content from N multimedia channels comprising:

a block module to interleave multimedia content from each of said multimedia channels in successive blocks.

For this teaching, the Office Action states that "Perlman disclose the interleaving of multimedia content see Par. 0055." Office Action, page 3. Paragraph 0055 discloses an MPEG-2 stream that comprises a series of I, B, and P frames and the use of associated pointers. The Applicants acknowledge that the use of I, B, and P frames in an MPEG stream is known in the art. However, the interleaving of multimedia content is not all that claim 22 recites. Claim 22 recites "to interleave multimedia content *from each of said multimedia channels in successive blocks.*" The Office Action cannot selectively choose an element of claim 22 while ignoring other elements. All limitations must be taught by a reference in order to anticipate a claim.

Paragraph 0055 of Perlman has absolutely no teaching of interleaving multimedia content from different multimedia channels. Perlman only discloses a single stream comprising a series of different frame types. Frames I, B, and P are consecutive frames of an MPEG stream. Furthermore, there is no discussion whatsoever of the I, B, and P frames arriving from different multimedia channels. An MPEG stream can in no way be interpreted as interleaving multimedia content from different multimedia channels. Claim 22 is supported by Figures 18a-b, which discloses different multimedia content from channels that are interleaved together to improve reading capability. These limitations are not found in Perlman, and claim 22 is not anticipated.

With respect to claim 22, the Office Action also refers to Figure 12 item 1210 of Perlman. Office Action, page 7. However, the Office Action provides no

discussion whatsoever of how paragraph item 1210 of Figure 12 teaches the limitations of claim 22. The Applicants discussed the patentability of claim 22 against Figure 12 in the Amendment filed on July 11, 2005. To interleave is to intersperse alternately. www.dictionary.com. This definition is consistent with the disclosure provided in Figure 18b and the accompanying text of the present application. Item 1210 of Perlman is a multimedia stream having second portions 1211, 1212, 1213, 1214. There is absolutely no teaching of the second portions being interleaved. The second portions 1211, 1212, 1213, 1214 may be entirely consecutive portions of a multimedia channel. The stream 1210 may further include consecutive portions of another multimedia channel. In this manner, interleaving is not involved. Perlman does not teach alternative interspersion of multimedia content, and an interleaving teaching cannot simply be inferred where it does not exist. The Office Action does not respond to this argument, and the Applicants respectfully request reconsideration. Claims 23-25 depend from and include all limitations of claim 22 and likewise represent patentable subject matter.

Based on the foregoing, the Applicant respectfully submits that claims 1-11 and 13-36 are in condition for allowance. Early allowance of all pending claims herein is respectfully requested.

Respectfully submitted,

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